

**Amendments to the Claims:**

We claim:

1. (Currently amended) A method for ~~analyzing~~ <sup>now written</sup> detecting modification of a target member of a biochemical pathways, comprising the steps of:
  - a) placing a polymer gel mask defining openings in contact with a substrate creating exposed areas and unexposed areas of the substrate;
  - b) exposing the substrate to a first group of biomolecules to immobilize the first group of biomolecules in the exposed areas of the substrate, wherein at least one of the first group of biomolecules is a target member of a biochemical pathway;
    - a) formation of an array of immobilized biomolecules;
    - c) b) exposing the first group of biomolecules to a second group array of to biomolecules in solution, wherein the second group of biomolecules are additional members of the biochemical pathway that are capable of binding to the target member of the biochemical pathway;
    - d) allowing binding of at least one of the additional members of the biochemical pathway to the target member of the biochemical pathway, wherein the binding results in modification of the target member of the biochemical pathway; and
    - e) detecting modification of the target member of the biochemical pathway ~~immobilized biomolecules;~~

wherein the immobilized biomolecules and/or the biomolecules in solution comprise at least two members of at least one biochemical pathway.
2. The method of claim 1, ~~further wherein~~ the first group of biomolecules ~~said array~~ comprises at least two different types of ~~immobilized~~ biomolecules.
3. The method of claim 1, ~~further wherein~~ the second group of biomolecules ~~said biomolecules in solution~~ comprises at least two different types of biomolecules.

4. (Canceled)

5. The method of claim 1, wherein detecting modification comprises the additional step of identifying the function of the target member of the biochemical pathway ~~at least one biomolecule in solution~~ based on said the modification thereof.

6. The method of claim 1, wherein detecting modification comprises the additional step of quantifying the amount present of the target member of the biochemical pathway ~~at least one biomolecule in solution~~ based on the said modification thereof.

7. The method of claim 1, wherein detecting modification comprises the additional step of qualitatively ~~and/or~~ quantitatively determining the level of activity of the target member of the biochemical pathway ~~at least one biomolecule in solution~~ based on the said modification thereof.

8. (Withdrawn) The method of claim 1, comprising the additional step of qualitatively and/ or quantitatively determining the level of activity of at least one biomolecule based on said modification.

9. (Withdrawn) The method of claim 1, comprising the additional step of detecting the presence of at least one immobilized biomolecule based on said modification.

10. (Withdrawn) The method of claim 1, comprising the additional step of identifying the function of at least one immobilized biomolecule based on said modification.

11. (Withdrawn) The method of claim 1, comprising the additional step of quantifying the amount present of at least one immobilized biomolecule based on said modification.
12. (Withdrawn) A method for analyzing biochemical pathways, comprising the steps of:
- a) formation of an array of immobilized biomolecules
  - b) exposing the array to biomolecules in solution; and
  - c) detecting modification of the biomolecules in solution; wherein the immobilized biomolecules and/or the biomolecules in solution comprise at least two members of at least one biochemical pathway.
13. (Withdrawn) The method of claim 12, further wherein said array comprises at least two different types of immobilized biomolecules.
14. (Withdrawn) The method of claim 12, further wherein said biomolecules in solution comprise at least two different types of biomolecules.
15. (Withdrawn) The method of claim 12, comprising the additional step of detecting the presence of at least one biomolecule in solution based on said modification.
16. (Withdrawn) The method of claim 12, comprising the additional step of identifying the function of at least one biomolecule in solution based on said modification.

17. (Withdrawn) The method of claim 12, comprising the additional step of quantifying the amount present of at least one biomolecule in solution based on said modification.
18. (Withdrawn) The method of claim 12, comprising the additional step of qualitatively and/ or quantitatively determining the level of activity of at least one biomolecule in solution based on said modification.
19. (Withdrawn) The method of claim 12, comprising the additional step of qualitatively and/ or quantitatively determining the level of activity of at least one immobilized biomolecule based on said modification.
20. (Withdrawn) The method of claim 12, comprising the additional step of detecting the presence of at least one immobilized biomolecule based on said modification.
21. (Withdrawn) The method of claim 12, comprising the additional step of identifying the function of at least one immobilized biomolecule based on said modification.
22. (Withdrawn) The method of claim 12, comprising the additional step of quantifying the amount present of at least one immobilized biomolecule based on said modification.

23-26 (Cancelled)

27. The method of claim 123, wherein detecting the modification comprises the additional step of identifying the affinity ~~and/~~ or avidity of the target member of the

Q3  
biochemical pathway to the at least one of the additional members of the biochemical  
pathway at least one biomolecule in solution for at least one immobilized biomolecule  
based on the said binding thereof.

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28-32 (Cancelled).

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33. (New) The method of claim 1, further comprising removing the polymer gel mask from the substrate before exposing the first group of biomolecules to the second group of biomolecules.

34. (New) The method of claim 1, wherein a self-assembled monolayer is formed on the substrate and the first group of biomolecules is immobilized in the exposed areas of the substrate by being bound to the self-assembled monolayer.

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